

**Before the
Federal Communications Commission
Washington, D.C. 20554**

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DEC 22 2004

**Federal Communications Commission
Office of the Secretary**

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| In the Matter of |) | |
| |) | |
| Amendment of Part 15 regarding new requirements |) | ET Docket No. 04-37 |
| and measurement guidelines for Access Broadband |) | |
| over Power Line Systems |) | |
| |) | |
| |) | |
| Carrier Current Systems, including Broadband over |) | ET Docket No. 03-104 |
| Power Line Systems |) | |
| |) | |

**SUBMISSION BY THE OFFICE OF ENGINEERING AND TECHNOLOGY,
FEDERAL COMMUNICATIONS COMMISSION**

The following documents are submitted for inclusion in the record of ET Docket No. 04-37, "Amendment of Part 15 regarding new requirements and measurement guidelines for Access Broadband over Power Line Systems; Carrier Current Systems, including Broadband over Power Line Systems," ET Docket No. 03-104. These documents comprise internally-generated information upon which the Commission relied, in part, in reaching its determination in the Report and Order in this proceeding.

- 1) A presentation representing data collected during a field test of the Amperion and Main.Net BPL installations in Allentown, Pennsylvania, conducted to familiarize the FCC with the BPL operations and to develop measurement techniques;
- 2) A presentation representing data collected during a field test of the Current Technologies BPL installation in Potomac, Maryland, conducted to familiarize the FCC with the BPL operations and to develop measurement techniques;
- 3) A presentation representing data collected in a field investigation by FCC personnel of the BPL system in Briarcliff Manor, New York, which has been the subject of an interference complaint;
- 4) A presentation representing data collected in a field investigation by FCC personnel of the Progress Energy BPL system near Raleigh, North Carolina, which has been the subject of an interference complaint;
- 5) Spreadsheets with the data underlying each of items 1-4; and
- 6) Emails, letters, and test reports related to each of the complaints the Commission received regarding various BPL operations.

For items 1-4 above, certain portions of those presentations have been redacted, as they represent preliminary or partial results or staff opinions that were part of the deliberative process. Moreover, the redacted information was not relied on by the Commission in making its decision. The redacted portions are indicated by grey shading in place of the subject text.

Bruce Romano
Associate Chief
Office of Engineering and Technology

Ambient Westchester County, NY, Briarcliff

3/31/04 Letter to Anh Wride et al. from E. Alan Crosswell
Subject: Re: Harmful Interference from experimental license WD2XEQ
Encl: Interference log for station N2YGK

4/26/04 E-mail to James Burtle from George Wheeler
Subject: FW: Question re experimental license
Related e-mail chain
Attached: A letter to J. Burtle from G. Wheeler regarding the complaint of
E. Alan Crosswell

6/11/04 Letter to Riley Hollingsworth from E. Alan Crosswell
Re: Unresolved harmful interference from experimental license WD2XEQ
Attached: Interference log for station N2YGK

9/10/04 E-mail to James Burtle from Bruce Franca
Subject: FW: Briarcliff Manor Test
Related e-mail chain

9/23, 27/04 E-mail to Bruce Franca et al. from Steve Martin
Subject: FW: BPL in Briarcliff Manor
Related e-mail chain

10/06/04 E-mail to Anh Wride et al. from Dave Hallidy
Subject: Effectiveness of "Notching" BPL Signals In Amateur Radio/SWL
Bands

10/07/04 E-mail to James Burtle from Alan Crosswell
Subject: Re: Your BPL Complaint

10/07/04 E-mail to Bruce Franca et al. from Steve Martin
Subject: Briarcliff Manor BPL—New Complaint
Related e-mail chain

10/07/04 E-mail to Anh Wride et al. from dgsvetan@rockwellcollins.com
Subject: BPL Notching Effectiveness
Related e-mail chain

10/07/04 E-mail to Ram Rao from Steve Martin
Subject: Re: Response to you email
Related email chain

Bethlehem, PA **Amperion**

3/17/04 E-mail to Alan Stillwell et al. from James Burtle
Subject: FW: Resolution of BPL Interference Complaint form Mr. Vincent

BPL Penn Yan

3/21/04 E-mail to rkelly@ssd.com from James Burtle
Subject: Interference Compliant
Related e-mail chain

4/21/04 **Penn Yan BPL Radio Interference Report**
Richard A. Ayers
DVI Data Ventures Inc.

4/21/04 E-mail to Alan Scrim et al. from James Burtle
Subject: FW: BPL Complaint
Related e-mail chain

5/06/04 E-mail to James Burtle from Dave Hallidy
Subject: Re: Complaint of Interference Lodged 3/28/04
Related e-mail chain

5/10/04 E-mail to Dave Hallidy from FCCHAM
Subject: Re: Interference Compliant
Related e-mail chain

5/24/04 E-mail to James Burtle et al. from Dave Hallidy
Subject: Second Complaint-BPL Interference in Penn Yan, NY
With Attachment

6/6/04 E-mail to James Burtle form Jrpmccoy@aol.com
Subject: Claims of BPL noise in Penn Yan and resolution.
Related e-mail chain

6/18/04 E-mail to James Burtle form Jrpmccoy@aol.com
Subject: Follow-up to BPL complaints in Penn Yan NY
Related e-mail chain
Attached: David Hallidy K2D report from Penn Yann

10/06/04 E-mail to Anh Wride et al. from Dave Hallidy
Subject: Effectiveness of "Notching" BPL Signals In Amateur Radio/SWL
Bands

Progress Energy, Raleigh, Faquay Varina, N.C.

3/11/04 E-mail to ed.wallace@pgnmail.com et al. from James Burtle
Subject: Interference complaints
Related e-mail chain

3/11/04 E-mail to bill.godwin@pgnmail.com et al. from Dick Orander
Subject: BPL Interference Complaint

3/12/04 E-mail to Alan Stillwell et al. from James Burtle
Subject: Progress Energy BPL Complaints
Related e-mail chain

3/13/04 E-mail letter to Len Anthony from Gary Pearce
Subject: Progress Energy BPL

3/29/04 E-mail to Bruce Franca et al. from Anh Wride
Subject: FW: 2nd interference complaint regarding Progress Energy Phase II BPL
Related e-mail chain

3/31/04 E-mail to Alan Scime et al. from James Burtle
Subject: FW: Complaint: BPL Interference in N.Raleigh, NC
Related e-mail chain

4/15/04 E-mail to Alan Stillwell et al. from James Burtle
Subject: FW: Progress Energy Interference Complaints-who should these be directed to?

4/26/04 E-mail to Len Anthony et al. from Frank A. Lynch
Subject: Re: Progress Energy Carolinas BPL Trial
Related e-mail chain

4/28/04 E-mail to flynch@nc.rr.com from Ahn Wride
Subject: Response to your email on BPL
Related e-mail chain

5/5/04 E-mail to Alan Stillwell et al. from James Burtle
Subject: FW: Interference Complaint Regarding your BPL System
Related e-mail chain

5/11/04 E-mail to James Burtle et al. from Tom Brown
Subject: RESEND-May 11, 2004- RE: Formal complaint-Progress Energy Part 15 devices

5/12/04 E-mail to Len Anthony from Gary Peace
Subject: 3rd Interference Complaint regarding Progress Energy Phase II
BPL Interference

5/14/04 E-mail to James Burtle et al. from Tom Brown
Subject: RESEND – May 14, 2004 – Formal complaint – Progress Energy
Part 15 devices
Attachments: Previous complaints made to Progress Energy, the FCC, and
a copy of Mr. Len Anthony's email

5/19/04 E-mail to n4tab@earthlink.net from Riley Hollingsworth
Subject: Mr. Brown—my comments on your April 27 complaint & May
11 follow-up
Related email chain

5/21/04 E-mail to James Burtle et al. from Gary Pearce
Subject: 4th Interference Complaint regarding Progress Energy Phase II
BPL Interference

6/10/04 E-mail to James Burtle et al. from Tom Brown
Subject: Re: 8th RESEND – June 2, 2004 – Progress Energy Part 15
devices
Related e-mail chains

9/29/04 E-mail to James Burtle et al. from Tom Brown
Subject: Reply and additional complaint – Progress Energy BPL systems –
Wake County, NC
Attached: Reply and additional complaints

10/5/04 E-mail to Sheryl Wilkerson et al. from Gary Pearce
Subject: "Notching" BPL signals on Amateur Radio/SWL Bands
Related e-mail chain

Cape Girardeau

8/14/03 **Product Safety Engineering, INC. Test Report**
Main.net Power Line Communications Inc.

9/8/04 Letter to David Solomon et al. from Christopher Imlay
Subject: Experimental Station WC2XXK

Manassas, VA

**3/24/04 Report of Harmful Interference From a Broadband Over Power Line
Trial or Deployment
Donald W. Blasdel**

4/15/04 Letter to James Burtle from Allen P. Todd
Subject: Radio Interference caused by BPL deployment in Manassas

Alliant Cedar Rapids, IA

4/5/04 E-mail to Alan Stillwell et al. from Jim Spencer
Subject: Fw: Noise Status-March 2004
Related e-mail chain

4/22/04 E-mail to Tim VanWeelden from Jim Spencer
Subject: Harmful Interference from BPL

5/10/04 Letter to Tim VanWeelden from Richard L. Sellers
Subject: BPL Test Installation in Cedar Rapids
Related Letters and e-mail chains

5/17/04 E-mail to Alan Stillwell fro Rick Sellers
Subject: BPL Interference in Cedar Rapids, Iowa
Attached: Letter to Tim VanWeelden

5/17/04 E-mail to James Burtle et al. from Jim Spencer
Subject: Response Requested

5/27/04 Letter to Tim VanWeelden from Robert Hirvela
Subject: BPL Complaint

5/27/04 E-mail to Anh Wride et al. from Arlo W Meyer
Subject: Fw: BPL

6/1/04 E-mail to timvanweelden@alliantenergy.com from James Burtle
Subject: PBL Interfernce complaints
Related e-mail chain

6/4/04 E-mail to Anh Wride et al. from Steve Martin
Subject: Re: ATTENTION: ACTION REQUESTED
Related e-mail chain

6/15/04 Letter to Jim Burtle from Daniel Hinz
Attached: Report

6/18/04 Cedar Rapids, Iowa, BPL Trial System Radio Frequency Interference Tests Report
Cedar Rapids BPL Steering Committee
Dale G. Svetanoff

10/7/04 E-mail to Anh Wride et al. from dgsvetan@rockwellcollins.com
Subject: BPL Notching Effectiveness

10/14/04 E-mail to James Burtle from Jim Spencer
Subject: Re: BPL Notching—Actual Experience
Related e-mail chain

Cottonwood, AZ

5/19/04 Report of Harmful Interference from a Broadband Over Power Line Trial or Deployment
Tom Schrum
Comment on 04-37

6/16/04 E-mail to Anh Wride et al. from Ernie & Betsy Cummings
Subject: Interference from Broadband Over Power Line Transmission
Attached: BPL Trial complaint from Floyd E. Cummings (Ernie)
Related e-mail chain

6/17/04 Letter to James Burtle from Clinton Pierce
Subject: Complaint against interference Amateur Hams Bands from Broadband Power Line System
Attached: BPL Trial complaint from Clinton L. Pierce and Data sheets
Related e-mail chain

6/17/04 Letter to James Burtle from Robert B. Thompson
Subject: Interference in Cottonwood
Attached: Data sheets

6/18/04 E-mail to James Burtle from Ernie & Betsy Cummings
Subject: Interference from Broadband Over Power Line Transmission
Attached: BPL Trial complaint from Floyd E. Cummings (Ernie)
Related e-mail chain

6/21/04 Report of Harmful Interference from a Broadband Over Power Line Trial or Deployment
Gregory A. Allen
Attached: Data sheets

7/12/04 Report of Harmful Interference from a Broadband Over Power Line Trial or Deployment
David Kiggins CBT

7/31/04 Letter to Arizona Public Service (Customer Service) from Mike Kinney
Subject: Interference issues of the two BPL tests sites located in Cottonwood, AZ, to Amateur Radio communication
Attached: Cottonwood, AZ BPL Trial System Radio Frequency Interference Report

8/5/04 E-mail to James Burtle from Steven Pearson
Subject: FW: bpl complaint
Attached: Letters and Data sheets
Related e-mail chain

8/14/05 E-mail to Anh Wride et al. from Rod Rosenbarger
Subject: Interference
Attached: BPL Trial complaint from Rodney W. Rosenbarger and a report on Advanced Refractive Effects Prediction System

8/25/04 E-mail to James Burtle from Richard Fusinski
Subject: BPL Interference

9/2/04 E-mail to James Burtle et al from Anh Wride
Subject: FW: BPL Interference complaint, new
Related e-mail chain

9/21/04 E-mail to shpigler@electricbroadband.com from James Burtle
Subject: FW: BPL Interference Reports
Attached: Letters, Data sheets, and a Report of Harmful Interference from BPL dated 8-9-04

10/6/04 E-mail to Sheryl Wilkerson from Robert Shipton
Subject: Verde valley Amateur Radio Association, Cottonwood, AZ BPL Notching summary
Attached: Committee Report and BPL Signal Strength Readings

10/7/04 E-mail to James Burtle from jimc100@juno.com
Subject: Re: Your BPL Complaint
Related e-mail chain

10/7/04 E-mail to Anh Wride et al from kit@ka0wuc.org
Subject: BPL comments
Attached: PDF file containing a series of measurements from a BPL system in service near Cottonwood Arizona.

10/11/04

Letter to James Burtle et al. from Christopher Imlay
Subject: Experimental Station WB9XVP at Cottonwood
Attached: Document with data

E. Alan Crosswell
Amateur Radio Station N2Y GK
144 Washburn Road
Briarcliff Manor, NY 10510
212-854-3754
n2ygk@weca.org

March 31, 2004

Anh Wride
Federal Communications Commission
Office of Engineering and Technology
Room 7-A825 Portals II
445 12th Street SW
Washington, DC 20024
Awride@fcc.gov

Alan R. Stillwell
Federal Communications Commission
Room 7-C210
445 12th Street SW
Washington, DC 20024
Astillwe@fcc.gov

Riley Hollingsworth
Federal Communications Commission
1270 Fairfield Road
Gettysburg, PA 17325
Rholling@fcc.gov

James R. Burtle
Federal Communications Commission
Chief, Experimental Licensing Branch
Room 7-A267
445 12th Street SW
Washington, DC 20024
jburtle@fcc.gov

Re: Harmful interference from experimental license WD2XEQ (File No. 0050-EX-ML-2003)

Dear FCC staff:

I believe with some certainty that recent interference to FCC licensed radio operation that I have experienced is caused by the Ambient Corporation field trial using Con Edison's medium voltage electrical transmission facilities operating under FCC Special Temporary Authorization with callsign WD2XEQ (File No. 0050-EX-ML-2003) in and around Briarcliff Manor, NY where I reside. The experimental power line communications system appears to be interfering with the operation of my licensed station in the 14 MHz band. Per the terms of Special Condition (1) of the Commission's Special Temporary Authorization, I ask that you have Con Edison immediately cease operation of this system until such time as the interference is resolved as they are interfering with a primary licensee of the frequency band in question.

I will be glad to work with you to demonstrate that the recurring interference I have detected is in fact caused by Con Ed's system. A simple "on-off" test of their PLC system should demonstrate whether it is the root cause as the

interference is fairly continuous in nature. Please contact me if you wish to do so and I will make myself and my station available.

Attached find my log describing the recent dates, times, frequencies, and description of the interference I have experienced, including one case where my communication with an international station was harmfully interfered with.

Today I have sent a similar letter to Con Edison Customer Communications, 511 Theodore Fremd Ave, Rye, NY 10580 with copy to Dr. Yehuda Cern of Ambient Corporation, the STA licensee, and Counsel for Ambient Corporation.

I look forward to immediate cessation of this harmful interference.

Sincerely,

E. Alan Crosswell

encl: Interference log for station N2YGG

Station N2YGK interference log

3/27/04 10:00

[Taking Sarah home from basketball at Claremont via Pleasantville Rd.] Monitoring 14.212 heard interference while driving from Pleasantville Rd south of Old Briarcliff Rd, along Poplar and Dalmeny to Pine Rd. Interference was strongest about midway along Dalmeny. Sounded like an intermittent raspy square wave of about 1-2s duration preceded by 1 or 2 short bursts. Obviously not a lot of traffic currently being sent as there were fairly long silent periods of 5-10 seconds in between. If this had more than a single customer on it, the traffic would be more near continuous I imagine. The noise was an S9 at max using an FT-840 with a Hamstick 9120 vertical mounted to the rear bumper of my Chevy Suburban and it wiped out LY9Y calling CQ during CQ WPX contest. I normally get about an S4 noise level from the vehicle but was able to hear LY9Y calling quite clearly over it.

If I hadn't known there was a BPL trial along this route I would have had difficulty locating the interference as it is pretty much continuous along the entire route.

3/27/04 11:35

[Returning from dropping Sarah at Ossining Pizza via Pleasantville Rd.] Took photos at 178 Dalmeny. Interference as described previously was read S9+20 at 14.217. Driving around the area (Pleasantville Rd North to Chappaqua Rd) heard S9+20 on 14.233. Took a photo of the traffic cam that I think is also connected to the BPL system.

3/27/04 15:10

[Returning from trip to supermarket and Citibank on Pleasantville Rd.] While working DL00V in CQ WPX contest was forced to ask him to repeat his exchange when a burst of BPL clobbered his transmission. His RST 59 in between the BPL noise. (Exchange was his 59 #832 my 59 #005) This was on Pleasantville Rd south just north of the intersection with Poplar.

3/28/04 07:29

[Driving to Briarcliff Bagels on North State Rd via Washburn to Carlton to Rt 9A North to North State.] BPL QRM on 14.294 from North State and Rt 9A and north on North State to Chappaqua Rd. Worked NN4N and NM50 in CQ WPX.

3/28/04 07:39

[Returning from Briarcliff Bagels.] QRM on 14.213 on Chappaqua Road between North State and Carlton. Drops off at Carlton where I turned right. This stretch of Carlton has underground power lines. Worked K5TR in CQ WPX.

3/28/04 20:01

[Going to Chelsea's to pick up Rachel.] QRM on 14.162 starting at Carlton and 9A and continuing up 9A to left on North State and right on Pleasantville Rd north through Orchard Rd in Ossining. Heard most strongly along Pleasantville Rd between North State and Mulberry Rd, where it completely covered a QSO I was trying to monitor.

3/30/04 17:00

Contacted Con Ed customer service to file an interference complaint. I gave the location of the interference as in the vicinity of Pleasantville Rd and Poplar Rd and up to Old Briarcliff Rd. The customer service agent said he would open a trouble ticket and took my name and daytime phone number. I asked for and was given a postal address to send a written complaint.

James Burtle

From: george.wheeler@hklaw.com
Sent: Monday, April 26, 2004 4:17 PM
To: James Burtle
Subject: FW: Question re experimental license

Burtle



Ambient Letter
Response to FCC...

Jim ... The hard copy should already be at the Secretary's office ... George

-----Original Message-----

From: Wheeler, George (WAS - X77073)
Sent: Monday, April 26, 2004 12:35 PM
To: 'James.Burtle@fcc.gov'
Subject: FW: Question re experimental license

Jim ... Attached is an electronic copy of the response of Ambient to your inquiry regarding the complaint filed by R. Alan Crosswell. The original hard copy version is being filed in the Secretary's office. Please call or email me if you would have any questions regarding this matter. Thanks for your help. George

George Y. Wheeler
Holland & Knight LLP
2099 Pennsylvania Avenue, NW, Suite 100
Washington, DC 20006-6801
202 457-7073 * FAX 202 955-5564

From: James Burtle [mailto:James.Burtle@fcc.gov]
Sent: Thursday, April 01, 2004 11:21 AM
To: John J. Joyce
Cc: Alan Stillwell; Alan Scrimme; Bruce Franca; Bruce Romano; Anh Wride; Ira Keltz
Subject: Question re experimental license

Mr. Joyce,
My name is Jim Burtle. I am Chief of the Experimental License Branch in the Office of Engineering and Technology at the FCC. I have recently received an interference complaint related to the operation of your BPL system.
From our records it appears that your experimental license has expired and you have not applied for a renewal. Are you now operating under Part 15? Your answer will assist me in determining how to handle the interference complaint. Thank you for your time,
Jim Burtle

HOLLAND & KNIGHT LLP

2099 Pennsylvania Avenue, N.W.
Suite 100
Washington, D.C. 20006-6801

202-955-3000
202-955-5564 Fax
www.hklaw.com

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| Orlando | Tel Aviv** |
| Portland | Tokyo |
| Providence | |
| St. Petersburg | *Holland & Knight LLC |
| San Antonio | **Representative Office |

April 26, 2004

GEORGE Y. WHEELER
202-457-7045
gwheeler@hklaw.com

VIA HAND DELIVERY

Jim Burtle
Chief, Experimental License Branch
Office of Engineering and Technology
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, DC 20554

Dear Mr. Burtle:

This is in response to your email dated April 1, 2004 with regard to the complaint of Mr. E. Alan Crosswell dated March 31, 2004.

1. Ambient Corporation (Ambient) is conducting an ongoing test program for broadband over power line (BPL) technologies in Westchester County, New York under FCC experimental license, call sign WD2XEQ granted September 3, 2003.

2. Representatives of Ambient spoke with Mr. Crosswell on April 6 and April 14 to confirm that the company takes his interference concerns seriously and that it has been actively evaluating options to demonstrate and test techniques for operating in compliance with the non-interference requirements of the Part 15 rules. Part of these good faith efforts involves experimenting and testing the capability of notching out.

3. As mentioned in its experimental progress report filed March 4, 2004, the company is in the process of updating its test measurement program to reflect the FCC's proposals in its Notice of Proposed rulemaking ("NPRM") [FCC 04-29]

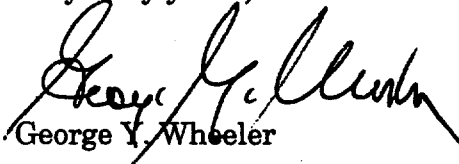
regarding carrier current systems, including BPL and amendment of Part 15 regarding new requirements and measurement guidelines for access broadband over power line systems in ET Docket No. 03-104/ET Docket No. 04-37, released February 23, 2004. Specifically its updates will be responsive to the FCC's proposals that Access BPL systems, including all BPL electronic devices, e.g., couplers, injectors, extractors, repeaters, boosters, concentrators installed on the electric utility overhead or underground medium voltage lines, etc., be measured in-situ to determine compliance with its Part 15 rules and that the measurement guidelines in Appendix C to its NPRM be used. The company is still studying these proposed guidelines and is considering how to introduce them into its test program at an early date.

4. In the interim, as part of its testing and experimental program, the company has and is conducting tests of notching out the 14 MHz amateur radio band (14.00 to 14.35 MHz). Initial results from field tests have shown feasibility of notching as a mitigation technique. However, full implementation of this feature will require upgrade of hardware some of which has been in the field for nearly two years. This upgrade will be completed in the near future.

5. The company intends to conduct test measurements as soon as feasible pursuant to the guidelines in Appendix C of the Commission's NPRM. When those results are available, the company will evaluate whether notching out is appropriate and/or whether it has other options to confirm its compliance with the Commission's rules and policies.

In the event there are any comments or questions concerning this matter, please contact the undersigned.

Very truly yours,


George Y. Wheeler

cc: E. Alan Crosswell

Notes

6/3/2004

George Wheeler returned my call of yesterday. He said that Ambient is currently operating in Westchester County, New York only.

E. Alan Crosswell
Amateur Radio Station N2YBK
144 Washburn Road
Briarcliff Manor, NY 10510
212-854-3754
n2ybk@weca.org

June 11, 2004

Riley Hollingsworth
Federal Communications Commission
1270 Fairfield Road
Gettysburg, PA 17325
Rholling@fcc.gov

Re: Unresolved harmful interference from experimental license WD2XEQ (File No. 0050-EX-ML-2003)

Dear Mr. Hollingsworth:

I am writing to appeal to you as Chief of the Enforcement Division to take action on my interference complaint originally filed on March 31, 2004. Although the Commission, Ambient Corporation (the experimental licensee) and Con Edison (the utility whose power lines are radiating harmful interference) were contacted in this complaint, only Ambient has contacted me, primarily through an intermediary P.E. they have contracted, Rich Mazzini.

I have made a good faith effort to work with Ambient Corporation primarily through telephone and email conversations with Mr. Mazzini, but also by participating in a conference call with Mr. Mazzini, Ram Rao and Yehuda Cern of Ambient. Ambient has been somewhat responsive and did claim to make some attempts at interference mitigation: They said the equipment they were using did not properly work to notch interference and were working with the vendor for a fix. Nonetheless, the interference remains, although, as you will see from my log, below, some changes happened which seemed to indicate that either Ambient had successfully notched out the interference at 14 MHz or had turned off that segment of the BPL system for a number of weeks. However, today, I once again measured significant harmful interference. Furthermore, harmful interference was never mitigated along other branches of the BPL trial area.

Per the Special Temporary Authorization as well as Part 15, Ambient is required to immediately cease harmful interference to licensed services. This has not happened and the Commission has taken no action to date to rectify this violation of the Commission's rules.

I ask that you initiate an investigation of this harmful interference and do me the courtesy of acknowledging my complaint.

Sincerely,

E. Alan Crosswell

encl: Interference log for station N2YBK
Copy of March 31, 2004 letter

Station N2YGK interference log

3/27/04 10:00

[Taking Sarah home from basketball at Claremont via Pleasantville Rd.] Monitoring 14.212 heard interference while driving from Pleasantville Rd south of Old Briarcliff Rd, along Poplar and Dalmeny to Pine Rd. Interference was strongest about midway along Dalmeny. Sounded like an intermittent raspy square wave of about 1-2s duration preceded by 1 or 2 short bursts. Obviously not a lot of traffic currently being sent as there were fairly long silent periods of 5-10 seconds in between. If this had more than a single customer on it, the traffic would be more near continuous I imagine. The noise was an S9 at max using an FT-840 with a Hamstick 9120 vertical mounted to the rear bumper of my Chevy Suburban and it wiped out LY9Y calling CQ during CQ WPX contest. I normally get about an S4 noise level from the vehicle but was able to hear LY9Y calling quite clearly over it.

If I hadn't known there was a BPL trial along this route I would have had difficulty locating the interference as it is pretty much continuous along the entire route.

3/27/04 11:35

[Returning from dropping Sarah at Ossining Pizza via Pleasantville Rd.] Took photos at 178 Dalmeny. Interference as described previously was read S9+20 at 14.217. Driving around the area (Pleasantville Rd North to Chappaqua Rd) heard S9+20 on 14.233. Took a photo of the traffic cam that I think is also connected to the BPL system.

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3/28/04 07:29

[Driving to Briarcliff Bagels on North State Rd via Washburn to Carlton to Rt 9A North to North State.] BPL QRM on 14.294 from North State and Rt 9A and north on North State to Chappaqua Rd. Worked

NN4N and NM5O in CQ WPX.

3/28/04 07:39

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3/28/04 20:01

[Going to Chelsea's to pick up Rachel.] QRM on 14.162 starting at Carlton and 9A and continuing up 9A to left on North State and right on Pleasantville Rd north through Orchard Rd in Ossining. Heard most strongly along Pleasantville Rd between North State and Mulberry Rd, where it completely covered a QSO I was trying to monitor.

3/29/04 19:24 [Added to this log out of order since I found a note I had written and failed to transcribe here earlier. 4/26/04]

QRM on 14.197 from the intersection of Pine and Dalmeny up the S-curves on Pine to the top of the hill.

3/30/04 17:00

Contacted Con Ed customer service to file an interference complaint. I gave the location of the interference as in the vicinity of Pleasantville Rd and Poplar Rd and up to Old Briarcliff Rd. The customer service agent said he would open a trouble ticket and took my name and daytime phone number. I asked for and was given a postal address to send a written complaint.

3/31/04

Sent interference complaint letters to Con Ed and FCC.

4/04/04

[Driving home from bank.] QRM heard on 14.263 at 13:45 starting at Radio Shack on Pleasantville Rd, across 9A onto Chappaqua Rd all the way along

Chappaqua Rd to Carlton.

4/06/04

Spoke by telephone to Rich Mazzini, a consultant P.E. hired by Ambient to represent them with respect to my interference complaint. [As these are notes based on a phone conversation there are undoubtedly omissions and errors.] Rich says he doesn't really know the technical details but that Ambient is doing some research, looking at technical options, doing testing and that there are some mitigation measures. I asked whether this was an issue between me and Con Ed or Ambient as it is Con Ed's power lines that are radiating the interference and that I didn't want to waste anyone's time with having parallel discussions and he said he'd get back to me but that he believed Ambient was taking the lead on this issue. I mentioned that I'd opened a trouble ticket with Con Ed and they had not gotten back to me yet.

I reasserted my request to have the harmful interference cease as soon as possible and that I didn't want to drag this out for a long time. We also discussed whether I was sure this interference was from Ambient and the geographic nature of it and I said I was pretty confident that it was, especially since it tracks the map on page 4 of Ambient's comments to the ET 03-104 NOI but was eager to do an "on-off" test on site to confirm it. I described my mobile station as pretty much run-of-the-mill with a \$700 transceiver and a \$20 antenna on the bumper and certainly not something overly sensitive. I felt it was important to convince myself that *my* station was interfered with (not just based on Ed Hare's more sophisticated setup).

I offered times on Thursday and Friday 4/8 and 4/9 to meet in person with an Ambient representative and demonstrate the interference and perform the test. Rich said he'd get back to me.

4/7/04 08:15

S9 QRM on 14.290 from 9A northbound and North State traffic light. Interfered with my reception of AR4KB.

4/7/04 19:38

Located another set of BPL taps off the medium voltage lines at 265 North State Rd at Stafford Street. Another tape on North State west of 425 near condos.

4/13/04 10:45

Called Rich Mazzini to see what's going on since he hadn't gotten back to me in a week. He said John Joyce (Ambient CEO) was supposed to call him back yesterday but didn't so he's going to call him now and follow up.

Rich called back. Yehuda Cern and Ram Rao will call me 4/14 at 3pm to discuss. He said they are writing a response to the FCC and they will be looking into notch filters.

4/14/04 15:30

Conference call with Ram Rao, Yehuda Cern, Rich Mazzini. Basically they were collecting information, asking me to describe the relative signal strength of the interference and where I heard it. They also asked a lot of questions that seemed to be along the lines of determining why I had filed a complaint and why now which I said was not particularly relevant as far as I was concerned. I was honest and said I'd heard about BPL coming to my town, had been shown the interference by Ed Hare, was not particularly active on HF but was concerned that if this thing spreads to my street it will have a serious impact on my home station. I also pointed out that the streets they are deployed on are in fact ones that I drive regularly and that now that I've thrown my HF rig in the car, I hear the interference every day on the way to work. It seemed like they were making a case that I was out looking for the BPL QRM as opposed to it finding me and that this somehow made a difference. [Being a cynic about the policies and motivations of the current Commission and the administration that appointed them, I believe it probably does.]

I pointed out that with only 200,000 or so hams in the entire country and there only being a small number of BPL field trials spanning small areas that it stood to reason that the odds were quite unlikely of a member of a sparse ham population actually being located near a BPL trial and directly experiencing interference to their home station.

I also described how I didn't want to just take Ed's interference readings (using a horizontally polarized antenna) as gospel without seeing for myself with my own inferior mobile station with a vertical antenna. I also had to describe my home station (horizontal 5-band fan dipole at right angles to the power lines but with one end within 20 feet of them).

They also asked about power line noise (e.g. from bad insulators) since it is a problem for BPL too. They seemed to be implying that BPL deployment would be a good thing since it would make the power

companies clean up their insulator noise. This gave me a good chuckle. I also pointed out that we have people in the local club who are expert at finding interference (and have \$10 AM radios) and having the power company resolve it and that one of our members was in fact an employee of Con Ed whose job it is to search out and resolve RF interference. Finally, they asked what amount of noise reduction would I consider reasonable. I said I didn't feel qualified to answer that question in quantitative terms. I also mentioned at some point that notching the ham bands would be enough for me to say my station isn't being interfered with, but what of WWV and shortwave broadcasters that I listen to?

Finally, I pressed them for either a date by which the continuing harmful interference would be eliminated or at least a date by which they would give me a date. They said I would have my answer by next week.

4/17/04 20:57 [Picking up Rachel at Kimberly's]

QRM on 14.19025 from Carlton to 9A North to Pleasantville Rd North to Poplar to Dalmeny to Cherry Hill Ct. Spun the dial while waiting for Rachel and the QRM is across the entire 20m band from 14.0 through 14.350. On return trip took Cherry Hill Ct to Dalmeny South to Pine up to the top of the S-curve.

4/23/04 15:12

After not receiving the call back that was promised on our 4/14/04 conference call, I sent email to Rich Mazzini pointing out the broken promise and threatening to escalate my complaint to the FCC Enforcement branch unless Ambient ceases the interference by 4/30/04.

4/26/04 10:05

Left followup phone message for Rich Mazzini.

4/26/04 14:30

Rich returned my call. Apparently Ambient has sent a reply letter to the FCC which I have been CC'd on. Rich will forward an email copy of it tonight when he gets home. He says Yehuda Cern made some changes on Thursday (4/22) which may or may not have had the desired effect. We discussed that I had driven through the area since then and still heard interference but had not looked carefully to see if perhaps the